MICROBIOLOGY/IMMUNOLOGY
SAFETY COMMITTEE MEETING

SEPTEMBER
2019
WHAT'S UP WITH ALL THE WESCODYNE AND VESPHENE?

• A number of labs are using Wescodyne and Vesphene instead of bleach for their disinfectants.

• Things to keep in mind if you choose to do this:
  • **It might not be safe to drain-dispose.** Check your SDS and labels and compare to our cut-sheet for sink disposal.
  • **They might not be appropriate for the agents you are using.** Bleach does work—you just need to use it properly.
  • **They might be more hazardous to you and your equipment than bleach**—make sure the reason you are avoiding bleach is appropriate.
  • **Talk to your BSO to make sure it’s right for you.**
LAB MOVES…
TELL EH&S!

• **Move out/renovation to-do list**
• **Move in to-do list**
• Other points to consider:
  • Changes/submission of COMS/IACUC protocols
  • Import/export permits
  • Shipping requirements
  • Inventory of materials
  • Document decontamination of equipment and destruction of any inventory prior to move
If doing work with a collaborator (internal/external), make sure your work is registered with COMS/IACUC, when required.

- Internal collaboration requires work to be registered under at least one PI with COMS/IACUC.

- External collaboration is trickier. Talk to your Biosafety Officer about options.
  - Cede review
  - Registration under a Harvard PI
PREGNANCY & REPRODUCTIVE HEALTH

EHS Home > Laboratories > General Lab Safety > Pregnancy & Reproductive Health

Pregnancy & Reproductive Health

Laboratory workers who are pregnant, nursing, or planning to conceive should review the hazardous materials involved in their work. Certain toxins can adversely affect reproductive health in both males and females, or could harm a developing fetus. These include chemicals classified as mutagens, teratogens, embryotoxins, or those with known developmental and reproductive toxicity. There are also biologic and radiologic materials that can pose a danger to reproductive health or an unborn child. As always, thoroughly review Safety Data Sheets (SDS) and other product literature before using a potentially hazardous material.

Anyone with questions relating to radiation protection measures for the embryo/fetus, radiation safety or procedures on the declaration of a pregnancy is encouraged to contact Radiation Safety Services for information.

COMS will stipulate procedures for work with organisms posing a risk to reproductive health or harm to a developing fetus. Individuals may contact the Biosafety Program to review work with micro-organisms.

Individuals listed on an IACUC protocol may reach out directly to the Occupational and Environmental Health Network, Inc. (OEHN) for a medical consultation regarding protocol-associated concerns. EH&S can assist individuals not listed on IACUC protocols in obtaining a confidential medical consultation with an OEHN clinician. EH&S can conduct hazard assessments and provide guidance on proper administrative and engineering controls, PPE selection, and other prudent work practices and may be requested by the OEHN clinician to perform additional evaluations.

Contact Mary_Corriigan@harvard.edu (or 617.496.4746) for questions or concerns or requests for occupational medical consultations.

https://www.ehs.harvard.edu/programs/pregnancy-reproductive-health
STORAGE IN HALLWAYS (EGRESS PATHS)

Please see the following link for bike cages and access -
https://campusplanning.hms.harvard.edu/campus-services/parking-commuter-services/bicycling
SAFETY COMMITTEE MEETING MATERIALS ON OUR WEBSITE

- Dates, times, locations of future meetings
- 2018-2019 meeting presentations

https://www.ehs.harvard.edu/secure/programs/microbiology-and-immunology
ROLES AND RESPONSIBILITIES
LAB SAFETY ADVISOR ... THAT’S ME

• Establishes and Fosters a Culture of Safety
• Works with labs to integrate safety into lab operations and promotes safe work practices
• Conduct inspections, compliance reviews, and hazard assessments
• Assist laboratories in performing risk assessments for new projects, and make recommendations on appropriate lab safety practices.
• Prepares and conducts lab safety trainings
• Responds to, and investigates lab-related accidents and exposures.
ROLLES AND RESPONSIBILITIES
LAB SAFETY OFFICER (LSO) … THIS IS YOU

➢ **Report** all accidents / incidents to Principal Investigator, EH&S staff.

➢ **Update** LabPoint Door Signage

➢ **Assist** your PI in assuring that your lab group complies with the Chemical Hygiene Plan and develops Standard Operating Practices.

➢ **Attend** local safety committee meetings and assist EH&S representatives as needed.
ROLES AND RESPONSIBILITIES
LAB SAFETY OFFICER (LSO)

**Weekly**
- Conduct or delegate weekly Satellite Accumulation Inspections
- Test emergency eye wash stations
- Disseminate information between EH&S and your lab group.

**Monthly**
- Attend safety committee and Please send a substitute if you are unavailable.
- Work on follow-up items between meetings.
- Ensure that new lab members are taking required EH&S trainings and document the lab-specific orientation
- Disseminate information between EH&S/Safety Committee and your lab group

**Annually**
- Accompany EH&S staff during lab audits. Provide follow up to recommendations after your lab has been inspected.
- Update PPE assessment
- Disseminate information between EHS staff / Safety Committee and your lab group
What is GHS?
And why do I need to know what it is?
GHS Label Elements

Look for **pictograms**, **signal words**, and **hazard statements**

**Gasoline**

**Signal Word**

Highly flammable liquid and vapor. Causes skin irritation. May be fatal if swallowed and enters airways. May cause drowsiness or dizziness. May cause genetic defects. May cause cancer. Suspected of damaging fertility or the unborn child. May cause damage to organs.

**PREVENTION**

Keep away from heat, sparks, and open flames. — No smoking. Keep container tightly closed.

Do not breathe vapors. Wash hands and any other contaminated skin thoroughly after handling. Wear protective gloves and eye protection. Use only outdoors or in a well-ventilated area.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

**RESPONSE**

If swallowed: Immediately call a poison center or doctor. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with plenty of soap and water/shower. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical attention. If exposed or concerned: Get medical advice. Get medical attention if you feel unwell.

In case of fire: Use foam, water spray or fog. Dry chemical, carbon dioxide or sand may be used for small fires only. Do NOT use water in a jet.
WHAT INFORMATION CAN AN SDS PROVIDE YOU?

- First Aid Information
- Spill Cleanup Information
- Disposal Information
- Glove and Personal Protective Equipment Information
HAZARDOUS WASTE -“CRADLE TO GRAVE”

Most regulations around hazardous waste were developed between 1965 and 1996.
IDENTIFICATION OF HAZARDOUS (CHEMICAL) WASTE

Hazardous (chemical) waste characteristics include the following:

- **Ignitability** - materials having flash points less than 140°F.
- **Corrosivity** - materials having a pH less than or equal to 2 or greater than 12.5.
- **Reactivity** - materials that tend to be unstable at normal temperatures and pressures or materials that may react violently when mixed with water.
- **Toxicity** - materials that contain one or more of 39 specific contaminants at concentrations greater than those set forth by the regulation.
- Wastes may appear on specific chemical lists issued by the DEP (the F, K, U, P lists); or
- Wastes may exhibit certain characteristics defined by the DEP.
- Also includes state regulated waste – used oil (MA01), PCBs (MA02)
PROGRAM RESPONSIBILITIES – WHO’S JOB IS IT?

**Labs – Generate Waste**

- Manage, label waste for disposal
- Weekly inspections of SAAs (undocumented)
- Coordinate clean-outs and unknown identification w/EH&S

**Hazardous Waste Vendors/Transporters/Disposal Facilities**

- Pickup, Package, transport hazardous waste to an approved disposal facility.

**EHS – LSAs**

- Support clients for specific questions, contact EHS Env Programs for assistance as needed.

**EHS - Environmental Programs**

- Maintain overall program, coordinate and manage hazardous waste disposal, university audit ready documentation, guidance, vendor contracts, conduct weekly inspections of Main Accumulation Areas.
SINK DISPOSAL: DON’T DO IT!

PROTECT OUR WATER

To meet MWRA and DEP hazardous waste requirements, we need your cooperation. Laboratory chemicals must not be disposed of in lab sinks. Reduce pollution in the environment by keeping the following materials from entering your sinks or drains.

- **Strong Acids and Bases**  
  (Solutions with a pH<5.5 or >12.0)
- **Mercury and other Heavy Metals**  
  (All Mercury-containing products)
- **Volatile Organic Compounds**  
  (Common laboratory solvents)

For additional sink disposal information, refer to EHS at:
http://www.uos.harvard.edu/ehs/ehs/environmental/wastewater.shtml
No abbreviations

Must say “hazardous waste”

Must have hazard box checked.

$72,000 Fine - EPA

When full mark the date and must be moved to an MAA within 3 days.

Only during that time is a duplicate waste stream allowed.
EHS TOOLS ON OUR WEBSITE

- Drain disposal guidance for non-hazardous chemicals
- Compatibility and storage tips
- Signs and postings

Chemical Waste Labeling Tool

Hazardous Waste Labeling Tool

Lab Safety Waste Guide
SATELLITE ACCUMULATION AREA (SAA) SET-UP

• Must be near the point of generation of hazardous waste.

• If you can – put it in a fume hood

• Must use an SAA posting (green sign) to designate waste area.

• Liquid waste must be stored in a secondary container or bin

• New SAAs can be set-up by Haz-waste vendors or EH&S personnel
MANAGING OUR SAAS – TYPES OF SAA INSPECTIONS

There are four types of Satellite Accumulation Area inspections.
HOW DO YOU KNOW WHAT TO LOOK FOR DURING THE WEEKLY INSPECTIONS?

CHEMICAL WASTE SATELLITE ACCUMULATION AREA (SAA)

Do you know your responsibilities for proper handling of chemical waste?

TRAINING:
Environmental regulations require training of individuals who generate or handle chemical waste (Hazardous Waste). Training must take place within six months of hire; retraining is required every two years. All individuals generating or handling chemical waste must be familiar with the General Guidelines. Training is offered online by the Environmental Health and Safety (EHS) Department.

CHEMICAL WASTE SAA INSTRUCTIONS:
Each chemical waste container must be properly labeled, closed, and stored in a satellite accumulation area.

1. **Set Up** – chemical waste containers must be stored in a designated Satellite Accumulation Area (SAA).
   a. This green sign should be placed near where you are planning to collect chemical waste.
   b. Containers for liquid waste must have secondary containment (containment bin or a spill pallet).
   c. The SAA must be under the control of the individual generating the waste and must be at or near the point of generation.

2. **Labeling** – each container must be tagged with a Chemical Waste/Hazardous Waste label.
   a. Fill out the label using full chemical names. No chemical formulas or abbreviations are permitted (e.g. H2O).
   b. Check the correct hazard box; at least one hazard box must be checked off.
      For assistance: [http://ehs.harvard.edu/chemical-waste-tagging-guide](http://ehs.harvard.edu/chemical-waste-tagging-guide)

3. **Storage** – containers must be closed, in good condition, and segregated from incompatibles.
   a. Containers and lids must be free of rust or breakage.
   b. The lid must be closed so that if it were knocked over the chemicals would not leak out (Regulations do not permit open inverted waste containers. "Use (burn)" lids must be sealed and labeled).
   c. Stock virgin chemicals must be stored separately from waste chemicals.
   d. Only fill one container of the same type of waste at one time (no duplicate waste streams)

WEEKLY INSPECTIONS:
All persons who generate chemical waste are responsible for visually inspecting their SAA's weekly, looking for leaks and for deterioration (caused by corrosion or other factors) of containers and secondary containment and ensuring labeling requirements are compliant with the regulations as listed above.

CHEMICAL PICKUP REQUESTS:
When a container is full, write in today’s date and submit a pickup request online or via phone. If the container is not picked up within 3 days, immediately notify EHS at the phone number below.

CAMBRIDGE CAMPUS: 617-495-2332
LONGWOOD CAMPUS: 617-432-1720
ONLINE: [http://ehs.harvard.edu/locate](http://ehs.harvard.edu/locate)
SAA HELPFUL TIPS

- Make sure that all tags are visible
- If re-using bottles make sure that the label is defaced on the original container
- Hazard box must be checked on tag – when in doubt check “toxic”
- Don’t put empty containers in the secondary container with working containers
- Don’t put virgin chemicals into SAA secondary containers
- If it’s not a hazardous chemical component (i.e. water) don’t list it on the tag!
SAA HELPFUL TIPS

SECONDARY CONTAINMENT

This is necessary for all liquid hazardous chemical waste.

Make sure these containers are clean (pipettes and other garbage items should not be in them).

Please label these containers as SAA – so that people do not put things that are not hazardous waste in them.
**SAA HELPFUL TIPS**

**SOLID HAZARDOUS WASTE**

- **Does not need to be in secondary containment**
- **Lids to these containers must remain closed – the lid must fit the container**
- **Avoid using yellow bags – these are mistaken for cancer drug hazardous waste (use clear bags)**
- **Please use either 5 gallon bucket or mayo jar**
- **Mayo jar does not need internal bag**
**THINGS TO AVOID**

- **Avoid** labeling things waste – other than your actual hazardous waste.
- **Tagged** All containers must be labeled with hazardous waste tag that is completely filled out.
- **Avoid** letting containers sit unused for longer than 1 month.
- **Avoid** using large containers unless you will be generating large amounts of hazardous waste.
- **Avoid** putting chemical formulas on hazardous waste tags – please use the common written name.
When it comes to combining waste streams please contact EH&S for assistance.

To minimize the amount of hazardous material containers – the following can be collected together (as long as there are no other incompatibles in the mixture):

Solvents: Acetone, xylene, Isopropyl alcohol, methanol, toluene, ethanol, ethyl acetate, hexane, butanol

Other items that can be consolidated: Waste bottles that have multiple components and you have a separate waste stream with one of those components
SAA MANAGEMENT
WHAT'S WRONG WITH THIS?
SAA MANAGEMENT
WHAT’S WRONG WITH THIS PICTURE?
HAZARDOUS WASTE PICKUP/SUPPLY REQUESTS

What can you do Online?

• supply requests
• schedule lab clean outs
• technical assistance
• assistance with unknown chemicals

Notes

• You can submit requests for others.
• Make sure to select the correct campus (Cambridge/Longwood Etc.).

Harvard University – HW Program

https://www.ehs.harvard.edu/Chemical-Waste-Pickup-Form

Plastic 1 Gallon Jugs
Grey Secondary Containment Bins
Clear Plastic Bags
5 Gallon Buckets
Disposable Sharps Containers
Questions?